

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

PCT

(10) International Publication Number
WO 2005/016998 A3

(51) International Patent Classification⁷: **C08J 3/03, A61K 7/00, C09D 183/04**

(21) International Application Number:
PCT/US2004/012001

(22) International Filing Date: 19 April 2004 (19.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/489,405 23 July 2003 (23.07.2003) US

(71) Applicant (for all designated States except US): **DOW CORNING CORPORATION** [US/US]; 2200 West Salzburg Road, Midland, MI 48686-0994 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SHIM, Anne, Katja** [DK/US]; 5405 Drake, Midland, MI 48640 (US). **TABLER, Raymond** [US/US]; 5703 Woodberry Court, Midland, MI 48640 (US). **TASCARELLA, David** [US/US]; 3720 Collingwood Street, Midland, MI 48642 (US).

(74) Agent: **DECESARE, James, L.**; IP Dept. - Mail CO1232, Dow Corning Corporation, 2200 West Salzburg Road, Midland, MI 48686-0994 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
21 April 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A MECHANICAL INVERSION PROCESS FOR MAKING SILICONE OIL-IN-WATER EMULSIONS

(57) Abstract: High viscosity silicone compositions such as silicone gums, silicone rubbers, silicone elastomers, and silicone resins, are emulsified by mechanical inversion in which silicone water-in-oil (W/O) emulsions are inverted to silicone oil-in-water (O/W) emulsions. Silicone resins with a viscosity of about one billion centistoke (mm²/s), i.e., 1,000,000,000 centistoke (mm²/s) have been emulsified. These silicone O/W emulsions are useful in personal care products where they are capable of providing improved aesthetics. They are also useful in products used in the paper industry and medical industry. The silicone O/W emulsions are easier to handle than the high viscosity silicone in the emulsion, which enables the emulsions to mixed with other emulsions or other water-soluble ingredients.



WO 2005/016998 A3